

# Parker River Watershed 5-Year Watershed Action Plan (2006 – 2010)



Photo Credit: Jim Fenton

2005

Commonwealth of Massachusetts  
*Executive Office of Environmental Affairs*

### **Recommended Actions (by issue)**

Listed below are individual priority actions to be taken toward each goal and objective described. The action plan matrix describes the timeframe over the next five years for implementing each action based on its priority (e.g., a start date of 2005 would indicate a high priority).

Based on overall public input, implementation of actions to address non-point source pollution should be the primary focus within the watershed in the near term. In particular, an upcoming MDEP 604(b) funded Non-point Source Pollution Assessment study of the watershed should be the overall priority action to meet this important water quality objective.

4.0 Action Matrix

This matrix lists the goals, objectives, and action strategies described in Section 3.0 that are most critical to the watershed. In addition to actions, goals and objectives, the proposed lead parties for each action, a potential funding source, the priority level, and the timeframe over the next 5 years for implementing each action are described. More information on potential funding sources is listed in Section 5.0. In some cases, the agency or entity proposed as the lead party is likely to be able to conduct the action as part of its operating budget and/or through volunteers.

It is important to understand that while priority ratings of HIGH, MODERATE, and LOW are indicated for actions in the matrix, all of the actions contained in this section were selected by Steering Committee members as high priority actions. Priority ratings of HIGH indicate that actions: 1) have a great potential effect, 2) are not possible without considerable funding, or 3) need to be completed before other important actions can take place. Priority ratings of MODERATE and LOW indicate that actions: 1) may be undertaken without substantial monetary input, 2) affect a limited area of the watershed, or 3) must have other actions completed to be undertaken properly.

The Start Date indicates the time period when an action is likely to begin through its completion. This column may also indicate that an action is likely to be ongoing throughout this 5-year cycle and into the next (particularly for outreach activities). Many actions slated to begin in 2008 and 2009 require other priority actions to be completed before these can be successfully implemented. For example, shoreline surveys must be undertaken before shoreline restoration, and tidal restrictions must be identified before they may be corrected. The Start Date given in the Action Matrix is tentative, depending upon the availability of funding and action by the lead party.

Action Strategy	Lead Party	Funding Source	Priority	Start Date				
				2006	2007	2008	2009	2010
Goal: Maintain Instream Flow and Evaluate Water Use								
Objective: To establish minimum flow requirements below water withdrawal locations (under the WMA purview) that have a hydraulic connection to the Parker River or tributary.								
Perform an Instream Flow study for freshwater portions of the Egypt/Rowley River and the Parker River including its major tributaries	EOEA, MDEP	MDEP – Section 319, 604(b)	HIGH					
Objective: To require water users that are subject to the WMA to identify their impacts on low flows through flow monitoring above and below their withdrawal location								
MDEP should consider effects of streamflow depletion caused by water withdrawals in its review and renewal of WMA permits, and should recommend minimum and seasonal flows.	MDEP	General Fund	MODERATE					
MDEP should use the WMA permit process to require water users to develop and implement water conservation and drought management plans.	MDEP	General Fund	MODERATE					
Through the permitting process for IWD’s proposed withdrawal from the Rowley River subwatershed, determine the potential impacts on streamflow/habitat.	MDEP, IWD	General Fund	HIGH					
MDEP should require all golf courses to apply for WMA permits.	MDEP	General Fund	LOW					
Objective: To identify and investigate out-of-basin water transfers which result in a loss of water from the basin								
Complete the Parker River Water Budget Study that is slated for completion between 2006 and 2007.	EOEA	General Fund	HIGH					
Objective: To balance demand with the safe yield of the Parker River watershed and to predict how potential future development may further deplete streamflow.								

Action Strategy	Lead Party	Funding Source	Priority	Start Date				
Perform a safe yield analysis on the Parker River watershed including consideration of water withdrawals subject to high rates of evaporation.	EOEA, PRCWA	EPA – Targeted Watershed Initiative	HIGH					
<i>Objective: To promote water conservation among water suppliers and watershed residents</i>								
Investigate available conservation technologies and methods and make this information available to watershed residents and businesses.	Municipality, CC, PRCWA	NRCS – Resource Conservation & Development Program, Watershed Surveys and Planning	LOW					
All Parker River watershed towns review the water conservation bylaws (requiring private wells to adhere to the same restrictions as public wells) passed by Middleton, MA and consider these bylaws for implementation.	Municipality, CC	General Fund	MODERATE					
<i>Objective: To mitigate the effects of stormwater runoff</i>								
MDEP should conduct inspections on facilities with general stormwater permits to determine if stormwater protection plans have been developed and implemented.	MDEP	MDEP – Section 319, Section 604(b)	HIGH					
Improve implementation of stormwater BMPs throughout the Parker River watershed. With the implementation of the Phase II stormwater management plans, there is an opportunity to encourage the use of BMPs in many areas and thus improve water quality:	MDEP, EPA	MDEP – Section 319, Section 604(b)	MODERATE					
Implement an ordinance that requires the outflow hydrograph of a new development to remain unchanged from its undeveloped (natural) state.	MDEP, Municipality, CC	MDEP – Section 319, Section 604(b), General Fund	MODERATE					
<b>Goal: Protect and Improve Water Quality in the Watershed</b>								
<i>Objective: To locate funding to support continued water quality monitoring (macro/fish, water chemistry and flow) focusing on areas identified in the EOEA watershed assessment report and the MDEP Water Quality Assessment Report.</i>								
<i>Objective: To address sediment and nitrogen loading within the watershed</i>								
Take action to improve water quality of Little River and Mill River. In the Little River pay special attention to the proposed Little River Transit Village situated between Newbury and Newburyport.	PRCWA, MDEP, Municipality, CC	MDEP – Mass Clean Water State Revolving Fund Program, Section 604(b) Water Quality Management Planning Grant, Wetlands and water Quality Grant Program 104(b), Section 319	MODERATE					
Public water suppliers should review the MDEP DWP Source Water Assessment Program (SWAP) evaluations when they are completed to develop and implement recommendations for the protection of Class A waters in the Parker River Watershed, including Bull Brook and Dow Brook reservoirs and tributaries thereto.	PWS, PRCWA	MDEP – Mass Drinking Water State Revolving Fund Program, Source Water Protection Program, Well Head Protection Grant Program, Section 319	LOW					
MDEP should provide assistance remediating hot spots where monitoring consistently indicates elevated pollutants: Little River, Mill River, Ox Pasture Brook (agricultural and industrial pollution sources) as well as Governor Dummer Academy WWTF.	MDEP	MDEP – Mass Clean Water State Revolving Fund Program, Water Quality Management Planning Grant, MDAR – Agriculture Environmental Enhancement Program, Section 319	HIGH					

Action Strategy	Lead Party	Funding Source	Priority	Start Date				
Help fund the PRCWA water quality program (currently unfunded). Other funding sources need to be identified to assist the PRCWA in funding its water quality initiatives.	MDEP, EOE A	MDEP – Mass Clean Water State Revolving Fund Program, Wetlands and water Quality Grant Program 104(b)	HIGH					
<i>Objective: To assess Designated Uses within the Parker River watershed and to address documented impairments</i>								
Conduct a preliminary analysis to prioritize the need for collecting quality assured data to fully assess all designated uses of reaches in the Parker River Watershed.	PRCWA, MDEP	MDEP – Section 319	MODERATE					
<i>Objective: To identify and address non-point source (NPS) pollution in the Parker River watershed</i>								
Municipalities work with MVPC to implement their management recommendations from the NPS assessment of the Little River.	Municipality, CC	CZM – Coastal Pollutant Remediation Grant Program, Coastal NPS Pollution Grant Program, MDEP – Section 319	HIGH					
<i>Objective: To identify land-based water quality hot spots</i>								
Stream teams conduct stream shoreline and physical habitat surveys along the Parker River and its tributaries (Penn Brook, Wheeler Brook, Little River, and Beaver Brook) and the Egypt/Rowley River and its tributaries.	PRCWA, Local Volunteers	NRCS – Watershed Operations (Small Watershed Program)	MODERATE					
<i>Objective: To centralize access to watershed studies and restoration information</i>								
Create a web-based watershed restoration inventory containing basic information on any potential restoration projects as well as all available data and studies.	PRCWA	NOAA – CRP	MODERATE					
<i>Objective: To assist all Parker River watershed towns in repair of failing septic and sewer systems</i>								
Assist the Towns of Rowley, Newbury, Newburyport, and other towns in repair of suspected failing septic and sewer systems. Inspect the sewer system in the Newburyport Industrial Park for leaks/breaks and other pollution sources.	MDEP	Community Septic Management Program, Watershed Project Financing and Construction, MDEP – Section 319	MODERATE					
Investigate the availability of low-interest loans for upgrades to septic systems throughout the Parker River watershed.	Municipality, Health Dept., MDEP	Community Septic Management Program, MHFA – Homeowner Septic Repair Loan Program	MODERATE					
Promote local Board of Health adoption and use of Septic Manager, an MS Access-based electronic data management system developed by MVPC and CZM to enhance Title 5 information record-keeping, tracking, and analysis.	CZM, MVPC	Community Septic Management Program	LOW					
<i>Objective: To study and improve ecosystem health in Plum Island Sound</i>								
Work with residents, MBL researchers, and state agencies to identify areas of marsh degradation and create a monitoring plan for passively and actively managed sites.	MBL, CZM, Private Groups	NOAA – CRP	MODERATE					
<i>Objective: To develop and implement policy that facilitates watershed management and restoration</i>								



Action Strategy	Lead Party	Funding Source	Priority	Start Date				
Submit a 319 non-point source implementation grant for the Little River in Newbury and Newburyport.	MVPC, PRCWA, Municipality, CC	MDEP – Section 319 NPS Grant	HIGH					
<b>Goal: Protect and Enhance Habitat within the Watershed, and Restore and Improve Stream Continuity and Aquatic Habitat in Freshwater and Tidal Portions of the Watershed</b>								
<i>Objective: To improve fisheries resources within the Parker River watershed and in nearby coastal waters.</i>								
Monitor status of Rainbow smelt, American eel, and anadromous fish to enhance ACEC management and to improve smelt habitat.	CZM, PRCWA, MDEP, DFWELE	General Fund	LOW					
Work with the MDCR to monitor dam safety and/or removal issues including the need for fish passage facilities in the Parker River Watershed.	MDCR, PRCWA, CZM, DFWELE	NRCS – WHIP, NOAA – CRP, NOAA/American Rivers/TNC/FishAmerica Partnerships, Direct Solicitation, USFWS – Funding for Fish Passage	HIGH					
<i>Objective: To rehabilitate shellfish resources in Plum Island Sound and its tributaries</i>								
Reduce over harvesting by limiting the number of commercial permits issued during times of high market price, or by lowering the allowable take by a harvester. Alternatively, focus on seeding programs to help maintain the resource.	CZM, MDEP, DFWELE	NRCS – Watershed Operations (Small Watershed Program), NOAA - CRP	MODERATE					
Develop a regional approach to shellfish harvesting to leverage lower costs for restoration materials, and to improve success of restoration programs.	Municipality, CZM	NRCS – Watershed Operations (Small Watershed Program)	LOW					
<i>Objective: To protect and improve habitat for migratory shorebirds and indigenous wildlife</i>								
Implement boating restrictions along beaches to help manage shorebirds and increase areas of essential breeding/feeding habitats.	Municipality, CC, CZM	NOAA – CRP	MODERATE					
Protect areas between municipal and state owned lands to reduce habitat fragmentation. By identifying corridors between these areas, protect migratory routes.	Municipality, OSC, MDEP, Private Land Trusts, CC, PRCWA	NOAA – CRP, NRCS – Resource Conservation & Development Program	HIGH					
<i>Objective: To monitor/control the spread of exotic aquatic and wetland vegetation</i>								
Focus <i>Phragmites</i> management on control rather than elimination. The best way to control this invasive species is to eliminate tidal restrictions.	MDEP, EOEA, PRCWA, CC	EOEA – GROWetlands, Corporate Wetland Restoration Program, NRCS – Watershed Operations (Small Watershed Program) MDCR – Lake and Pond Grant Program, MDEP – Section 319, Section 104(b)	MODERATE					
Control noxious plant populations for Baldpate Pond, Central Street Pond, Lower Mill Pond ( <i>T. natans</i> ), Pentucket Pond ( <i>C. caroliniana</i> ), Sperry’s Pond, State Street Pond ( <i>C. caroliniana</i> ), Upper Mill Pond, and Wilson Pond.	MDCR, MDEP, Municipality, CC	EOEA – Corporate Wetland Restoration Program, MDCR – Lake and Pond Grant Program, NRCS – Watershed Operations (Small Watershed Program), MDEP – Section 319, 104(b)	LOW					

Action Strategy	Lead Party	Funding Source	Priority	Start Date				
<i>Objective: To identify, expand, and protect priority habitats within the Parker River watershed</i>								
Certify vernal pools throughout the watershed. Vernal pools are a seasonal habitat for many species, including the Blanding’s turtle. Certifying vernal pools may also help in land protection efforts.	Municipality, CC, PRCWA, Mass Audubon	NOAA – CRP, MDEP – Section 104(b)	MODERATE					
Review NHESP BioMap and Living Waters core habitats and focus habitat protection efforts on these locations.	NHESP, PRCWA, CC, Private Land Trusts	General Fund	LOW					
<i>Objective: To improve degraded habitat and promote the development of sustainable natural communities within the Parker River watershed.</i>								
Continue studies on turtle habitat in the Parker River watershed. Public awareness needs to be raised, and signage should be in place to warn drivers at known turtle crossing sites (particularly Route 97).	PRCWA, Municipality, CC, NHESP	NOAA – CRP	LOW					
Plant submerged vegetation such as eelgrass to improve/restore shoreline habitat.	PRCWA, MDEP, CZM	NOAA – CRP, EOEa – Corporate Wetland Restoration Program, NFWF Five-Star Restoration Grants, MDEP – Section 104(b)	MODERATE					
<i>Objective: To monitor and restore salt marsh habitat in Plum Island Sound.</i>								
Identify, prioritize, and implement projects to restore normal flow to tidal restrictions (such as undersized culverts or poorly designed bridges) in conjunction with the wetlands restoration group. Focus on high priority areas.	MDEP, EOEa, CZM, NHESP, Municipality, MHD	EOEA – GROWetlands Grant Program, EOEa – Corporate Wetland Restoration Program, NRCS – Watershed Operations (Small Watershed Program)	HIGH					
<b>Goal: Protect Open Space and Maintain Rural Landscape</b>								
<i>Objective: To implement municipal open space plans and develop regional open space plans</i>								
Consider passage of the Community Preservation Act (CPA) in order to aid protection of historical resources, protect additional open space, and create additional affordable housing.	Municipality, MDAR, Private Land Trusts, Audubon Society	General Fund	LOW					
Continue the planning for growth activities, including open space protection on a regional basis with an emphasis on the Great Marsh focus area. Watershed Open Space Committees (OSCs) need to establish joint open space protection projects.	Municipality, OSC, PRCWA	EOEA – Planning for Growth Grants, Self Help Program, Urban Self Help Program	MODERATE					
<i>Objective: To identify, acquire, and protect key parcels of land or easements</i>								
PRCWA work with local non-profits (TTOR, ECGA, Mass Audubon, etc.) to identify key parcels of land for priority protection.	PRCWA, CC, OSC, Private Land Trusts	NRCS – Resource Conservation & Development Program, APR, Environmental Enhancement Program	LOW					
<i>Objective: To limit the adverse impacts of growth on the watershed.</i>								

Action Strategy	Lead Party	Funding Source	Priority	Start Date				
Promote Open Space Residential Development (OSRD) as a method of protecting habitat and open space in new residential developments.	Municipality, OS Network, OSC, CC	General Fund	HIGH					
Incorporate smart growth technologies in local development/redevelopment policies, plans, and regulations.	Municipality, CC, OSC, PRCWA, MVPC	NRCS – Watershed Operations (Small Watershed Program), Resource Conservation & Development Program	HIGH					
<i>Objective: To create incentives and use existing programs to preserve open space and farms</i>								
MVPC and Mass Audubon work with Planning Boards and Master Plan Committees to integrate preservation strategy with zoning by-laws.	MVPC, Mass Audubon, CC, Municipality	General Fund	MODERATE					
<b>Goal: Provide Safe Recreation and Public Access</b>								
<i>Objective: To improve public access to the freshwater and tidal portions of the Parker River, its tributaries, and Plum Island Sound</i>								
Improve public access by creating additional canoe/kayak put-ins.	PRCWA, MDCR, Municipality	NRCS – Watershed Operations (Small Watershed Program)	LOW					
<i>Objective: To develop trails in and interpretive materials for the Parker River watershed</i>								
Develop a written Trail Plan, defining available trails, trail expansion, and trail maintenance requirements. Draft and publish an "Interpretive Trail Map" for public use.	PRCWA, MDCR, OSC, Municipality	MDCR – Recreational Trails Program, Greenways and Trails Demonstration Grants, MDCR – Urban Forest Planning and Education Grants, NRCS – Watershed Operations (Small Watershed Program)	LOW					
<i>Objective: To engage recreational users of the Parker River watershed in watershed stewardship</i>								
Support boat pump-out programs on Plum Island Sound and on two tributaries (Pine and Grape Island Creeks) to Plum Island Sound to reduce boating impacts.	PRCWA, CZM, Municipality	NRCS – Watershed Operations (Small Watershed Program), MDEP – Section 319	MODERATE					
<b>Goal: Raise Public Consciousness through Public Outreach and Coordinate Policy to Enhance Watershed Restoration/Improvement</b>								
<i>Objective: To promote effective communication between parties in the watershed and to increase the efficiency of watershed restoration and protection activities</i>								
Consider the creation of an Estuarine Plan Coordinator (part time) to assist in implementation of recommended actions of the estuarine management plan, and the development of an ACEC-wide management plan.	CZM, Municipality, CC, OSC	General Fund	MODERATE					
Develop an ACEC Estuary Management Plan.	CZM, Municipality, CC	General Fund	LOW					
Work to implement and enforce growth management bylaws and regulations related to subdivision development, stormwater management, and wetlands protection to reduce non-point source pollution.	MVPC, Municipality, CC, OSC, PRCWA	General Fund	HIGH					



Action Strategy	Lead Party	Funding Source	Priority	Start Date				
<i>Objective: To improve the economic resources available for watershed protection and restoration activities</i>								
Promote formation of a regional Agricultural Commission to serve as liaison between farming community and local boards and regulatory agencies.	Municipality, CC, OSC, MDAR	General Fund	LOW					
Initiate Public Outreach to a variety of targeted audiences (schools, business communities, local officials, homeowners, recreational users, etc.) through presentations, handouts, signage, hikes and tours.	PRCWA, MDEP, CZM, MBL, Municipality, CC, OSC	Mass Environmental Trust – Environmental Grants, MDCR – Urban Forest Planning and Education Grants	LOW					
<i>Objective: To involve watershed residents in restoration activities, and to promote stewardship of watershed resources</i>								
PRCWA address public outreach activities towards municipal officials relative to water use, land conservation, planning, etc.	PRCWA	MDHCD – Municipal Incentive Grant Program	MODERATE					

